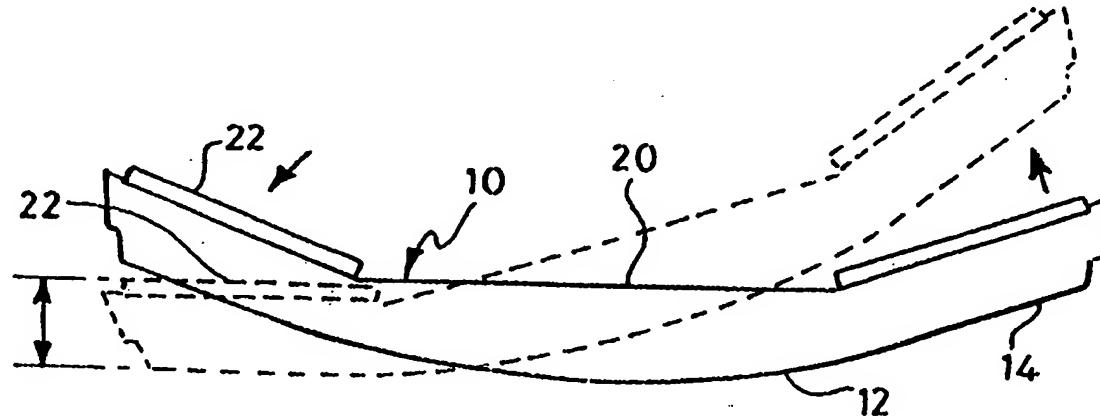




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## (54) Title: EXERCISE APPARATUS



## (57) Abstract

Exercise apparatus comprising an elongate rockable body (10) having on its upper surface flat end platforms for foot placement, for example in the form of end plates (22), which platforms are inclined downwardly towards one another to suit an astride posture when standing on the platform to effect rocking thereof, the underside of the body having end region heels (14) the undersurface of each of which is parallel to the foot placement plate above it, whereby either foot placement plate, when pressed fully down, is disposed horizontally.

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### Exercise Apparatus

This invention relates to exercise apparatus.

According to the invention, there is provided exercise apparatus comprising an elongate body rockable on its undersurface about an axis normal to its length, said body having an upper surface which includes two substantially flat platforms for foot placement respectively at or adjacent opposite ends of the body, wherein the undersurface has two end regions constituting heels beneath the platforms which are also substantially flat, each substantially parallel to the foot platform above it.

The two flat foot platforms are preferably equally inclined downwardly towards one another away from the ends of the rockable body. The upper surface of the body between the platforms may also be flat, whereby to constitute an intermediate platform. The two heels (end regions of the undersurface) are clearly inclined similarly to the two foot platforms, downwardly towards one another towards the centre of the rockable body.

Preferably, the body is symmetrical about a median plane containing the axis about which the body is rockable. The major part of the undersurface between its end regions is preferably cylindrically curved about this axis, whilst its upper surface preferably conforms to three sides of a polygon centred on the median plane, preferably on the side of the axis of rocking more remote from the body.

In its rest position, therefore, the rockable body preferably rests on the floor or ground with its median plane vertical, the intermediate platform horizontal and the two end platforms equally inclined downwardly towards the intermediate platform between them.

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In use, a person is able to obtain exercise by standing, legs apart to enable placement of the feet on the two end platforms, and then transferring body weight alternately from one foot to the other in order to induce rocking of the rockable body. Heavier exercise is obtained by rocking more quickly. The angular range of rocking is limited by flat-bottomed heels on the underside of the rockable body, respectively at opposite ends thereof. As the flat undersurface of each heel is parallel to the foot platform above it, pressing down on the foot platform at either end of the body positions the foot platform horizontally, enabling a number of one foot stand-on/stand-off and stepping round exercises to be performed.

In order to facilitate a number of other exercises, the body may, on its underside at or near its ends, be provided with feet, which fold out from underside recesses, whereby to stabilise the body in its rest position. The folded out feet preferably lift the body slightly off the ground, and may be rubber tipped, thereby to reduce shock impacts, as when performing step on/step off exercises.

Moreover, the rockable body is preferably provided in combination with chocks which can be placed under the ends of the rockable body to prevent it from rocking, or, in contrast to the afore-mentioned feet, to limit the angular extent of rocking available. The intermediate platform, as well as the end platforms, can then be used for step on/step off exercises. The chocks preferably have flat, inclined upper surfaces for engagement with the undersides of the heels. The chocks may lift the rockable body slightly off the ground and have underside cushioning pads, e.g. around the peripheries of the chocks, again to reduce shock impacts.

The foot platforms, instead of being integral with the rockable body, may be constituted by a pair of foot placement plates, preferably circular plates, mounted over the upper surface of the elongate rockable member at or adjacent the ends thereof, which may be rounded to suit. Means may be provided whereby these

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Although not shown, the rockable body, whether stabilised or not, can also be used for lying-down and sitting-up exercises, especially if a mattress in the form of a foam mat is provided to cover the upper surface of the body and protect the spine.

The invention is further described with reference to the accompanying drawings, in which:-

Figure 1 is a plan view of the exercise apparatus;

Figure 2 is an underplan view;

Figure 3 is a side view;

Figures 4 and 5 show the fold-out feet provided for the apparatus, in underside view and side view;

Figure 6 shows the chocks provided for the apparatus, when in use;

Figures 7A, 7B and 7C show a chock in side, plan and underplan views; and

Figure 8 shows the elastic band with which the apparatus is equipped.

The exercise apparatus illustrated in Figures 1 to 3 comprises a plastics moulded, elongate body 10 with a circularly curved undersurface 12 enabling the body to rock about an axis normal to the length of the body. Arcuate shaped, flat bottomed heels 14 provided at the ends of the undersurface 12 limit the angular extent of rocking.

The upper surface of the rockable body 10 is polygonal and comprises two flat,

plates can be locked in fixed relationship to the rockable body, or alternatively, with the locking means released, the plates are able to rotate or spin. In this way it is possible to carry out twisting exercises when standing on the plates, either simultaneously with rocking or without rocking if the chocks are in position. The foot placement plates may or may not be fully detachable. If detachable, the upper surface of the rockable body normally hidden beneath the plates may be used for foot placement. However, in a preferred embodiment, the foot platforms take the form of hinged plates for concealing recesses for serving as storage spaces.

Thus, a narrow recess along the centre of the underside of the rockable body may accommodate and locate the central portion of an elastic or spring-tensioned band having hand grips, whereby the upper part of the body may be exercised by stretching and unstretching the band. If the chocks are not in position, the arms and upper part of the body can be exercised more heavily by using the stretching and unstretching of the band to induce rocking. Non-elastic or sprung bands may also be used in the last mentioned manner. When the band is not in use, its ends, including the hand grips, may be stored in the afore-mentioned recesses covered by the hinged foot placement plates. When the band is in use, the foot placement plates will be closed after the ends of the band have been extracted from the said recesses. Substitutable bands of differing elasticities may be provided.

Preferably, the underside of the rockable body and all the platforms, including the foot placement plates if provided, have non-slip surfaces or surface areas imparted to them. If the rockable body (and plates) are moulded of plastics material, a suitable non-slip finish may be imparted by the moulding process. Alternatively, however, a rubberised finish may be applied, especially in the case of the underside of the rockable body, where the non-slip surface is preferably constituted by two strip regions extending along or adjacent the two longitudinal edges of the underside of the body.

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cooperating with the non-slip surface on the underside of the heels 14. The chocks, when fully inserted, preferably lift the body slightly off the ground, so that again the feet 26A provide low impact levels in use.

Figure 2 also shows a longitudinal recess 28 along the centre of the undersurface of the rockable body, and associated clips 28A. Thereby may be retained, as shown in Figures 6 and 8, an elastic or sprung band 30, or possibly a non-elastic band, with hand grips 32 at the ends of the band. The ends of the band 30, including the hand grips 32, are storable in the above-described storage spaces 10A, but by opening the foot plates 22 can be extracted and located in the grooves 34 (see Figures 1 and 2) in the ends of the rockable body 10 to extend upwardly when gripped by a user standing on the foot plates 22 (the latter having been closed after extracting the ends of the band). Substitute bands of differing elasticities may be provided. For different exercises, the band may be used with the body 10 free to be rocked or stabilised by the feet 24 or the chocks 26.

Finally, an overlay mat (not shown) may be provided, for placing on the polygonal upper surface to enable lying-down exercises to be performed.

A variety of exercises can be performed on the apparatus. When standing on the foot plates 22, rocking can be induced by transference of body weight from foot to foot. By use of the feet 24 or chocks 26, twisting exercises can be carried out without rocking or with reduced rocking. The elastic band can be used to exercise the arms and upper part of the body, whether to induce rocking or not. One foot step up/step down or step around exercises can be performed on and off a foot plate 22 when this is fully pressed down, with the other foot for example, as the foot plate is then disposed horizontally due to the parallelism of the surfaces 18 and 14.

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inclined end regions 18 and a flat, centre platform 20. The end regions 18 are surmounted by circular foot plates 22, the ends of the rockable body being rounded to suit. The foot plates 22, and if desired also the centre platform 20, as well as the edge regions 12A of the undersurface 12 and the undersides of the heels 14, have a non-slip finish imparted by the moulding process or by applying a layer of rubber. The underside of each heel 14 lies parallel to the foot platform 18 above it, so that the foot platform is positioned horizontally when pressed down to the limit permitted by the heel, as indicated by the dashed lines in Figure 3.

The plates 22 may be rotatable by means of inclined spindles and tightenable by means of a butterfly nut or other suitable locking means so as to be locked against the normally permitted rotation or spinning.

Preferably, however, the plates 22 are hinged, as indicated at 22A in Figure 8, normally to conceal recesses 10A in the body serving as storage space, especially for a purpose later described.

Referring to Figure 2 and Figures 4 and 5, it can be seen that the body 10 is provided with fold-out feet 24, hinged as indicated at 24A, retracted into recesses 10B in the body in their inoperative condition, but in their folded-out condition serving to stabilise the rockable body in its mean position, but preferably slightly lifted off the ground. Rubber tips on the fold-out feet then serve to provide low level shock impacts, as when stepping on/stepping off the stabilised body.

Partly for the same purpose, chocks 26 with small feet 26A may be provided (see Figure 6). However, the chocks 26 can be moved outwardly relative to the undersides of the heels 14, to limit rocking to a chosen extent rather than preventing rocking. The chocks 26 are shown in detail in Figures 7A to 7C; the small feet 26A are preferably of foam to provide a cushioning effect, and the upper surface has an area 26B of non-slip nature, e.g. a layer of rubber, for

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downwardly towards the intermediate platform between them.

7. Exercise apparatus as claimed in any of claims 1 to 6, in combination with chocks which can be placed under the ends of the rockable body to prevent it from rocking or to limit the angular extent of rocking.
8. Exercise apparatus according to any of claims 1 to 7, wherein the foot placement platforms, instead of being integral with the rockable body, are constituted by a pair of foot placement plates mounted over the upper surface of the elongate rockable member at or adjacent the ends thereof.
9. Exercise apparatus according to claim 8, wherein the plates are round, and the ends of the rockable body are matchingly rounded.
10. Exercise apparatus according to either of claims 8 or 9, wherein the foot placement plates are openable and conceal storage spaces in the body.
11. Exercise apparatus according to any of claims 1 to 10, having an elastic or spring-tensioned band (or non-elastic band), having hand grips located along the centre of the undersurface of the body and its hand grip ends accessible at the ends of the body.
12. Exercise apparatus according to claim 11 when appendant to claim 10, in which the accessible hand grip ends of the band are storable in the spaces beneath the openable foot plates.
13. Exercise apparatus according to any of claims 1 to 12, wherein the underside of the rockable body and all the platforms, including the foot placement plates if provided, have non-slip surface areas imparted to them.

Claims

1. Exercise apparatus comprising an elongate body rockable on its undersurface about an axis normal to its length, said body having an upper surface which includes two substantially flat platforms for foot placement respectively at or adjacent opposite ends of the body, wherein the undersurface has two end regions constituting heels beneath the platforms which are also substantially flat, each substantially parallel to the foot platform above it.
2. Exercise apparatus according to claim 1, wherein the two flat platforms are equally inclined downwardly towards one another away from the ends of the rockable body.
3. Exercise apparatus according to claim 1 or claim 2, wherein the upper surface of the body between the platforms is flat, whereby to constitute an intermediate platform.
4. Exercise apparatus according to any of claims 1 to 3, wherein the body is symmetrical about a median plane containing the axis about which the body is rockable.
5. Exercise apparatus according to claim 4, wherein at least the major part of the undersurface is cylindrically curved about the said axis, whilst its upper surface preferably conforms to three sides of a polygon centred on the median plane on the side of the axis of rocking more remote from the body.
6. Exercise apparatus according to claim 5, wherein, in its rest position, the rockable body rests on the floor or ground with its median plane vertical, the intermediate platform horizontal and the two end platforms equally inclined

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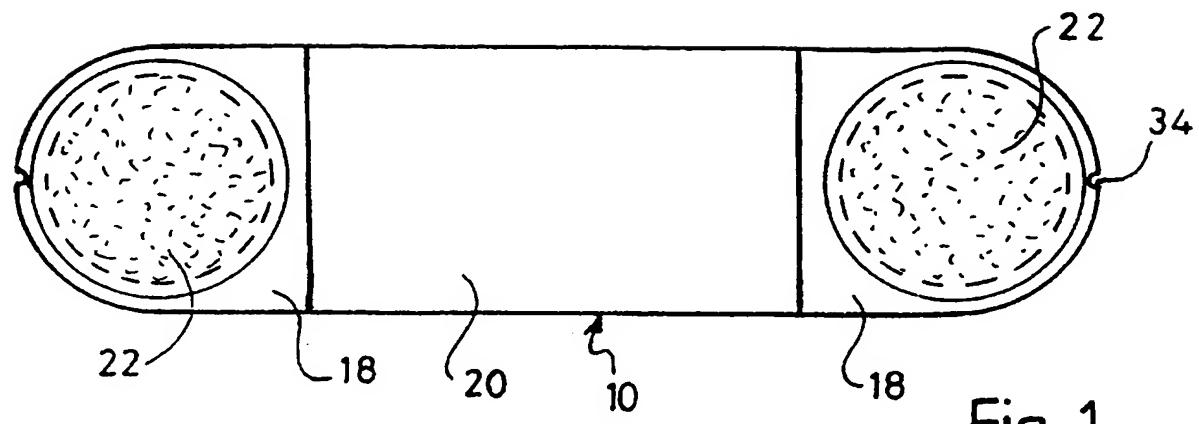


Fig. 1

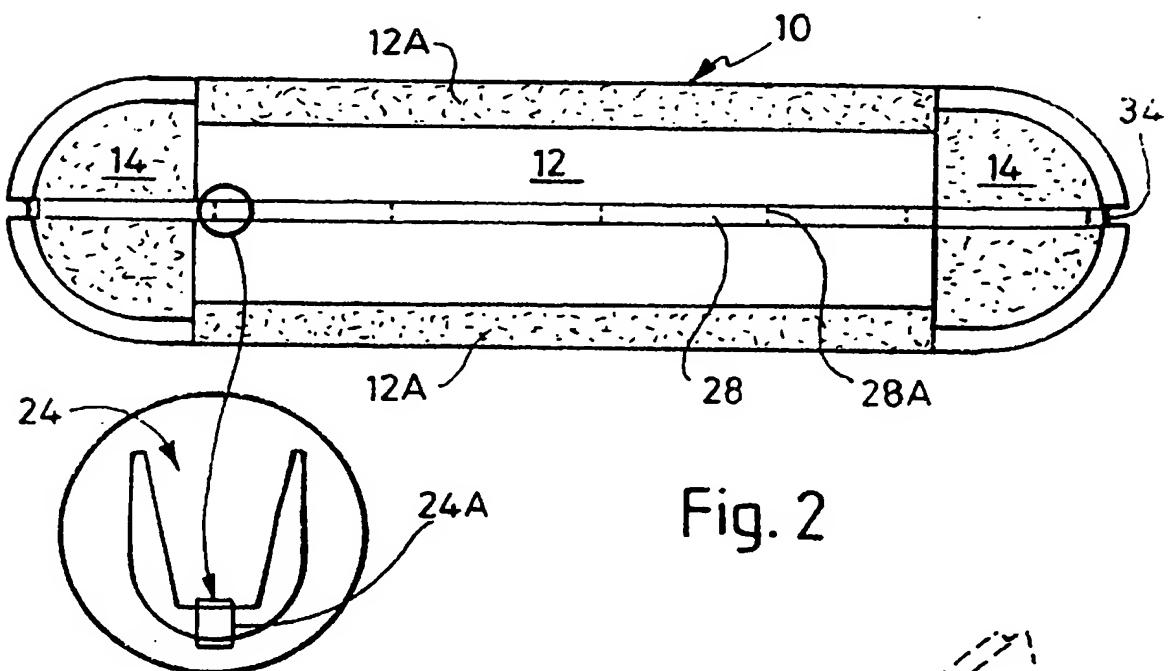


Fig. 2

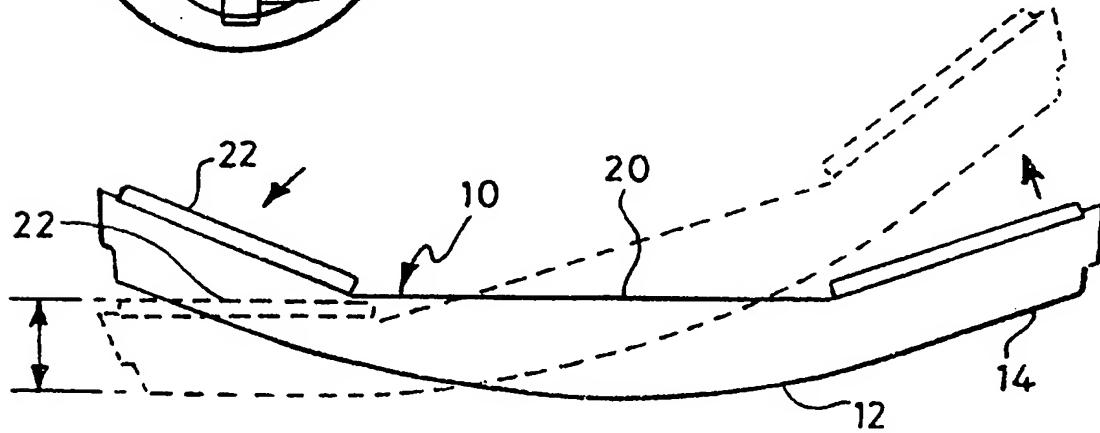


Fig. 3

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14. Exercise apparatus according to claim 13, wherein, when the rockable body (and plates) are moulded of plastics material, a suitable non-slip finish is imparted by the moulding process.
15. Exercise apparatus according to claim 13, having a rubberised finish applied to provide said non-slip surface areas.
16. Exercise apparatus according to claim 15, having the rubberised finish applied to the underside of the rockable body along two longitudinal edge regions thereof.
17. Exercise apparatus according to claim 7 or any claim appendant thereto, wherein the chocks have underside cushioning pads.
18. Exercise apparatus substantially as hereinbefore described with reference to the accompanying drawings.

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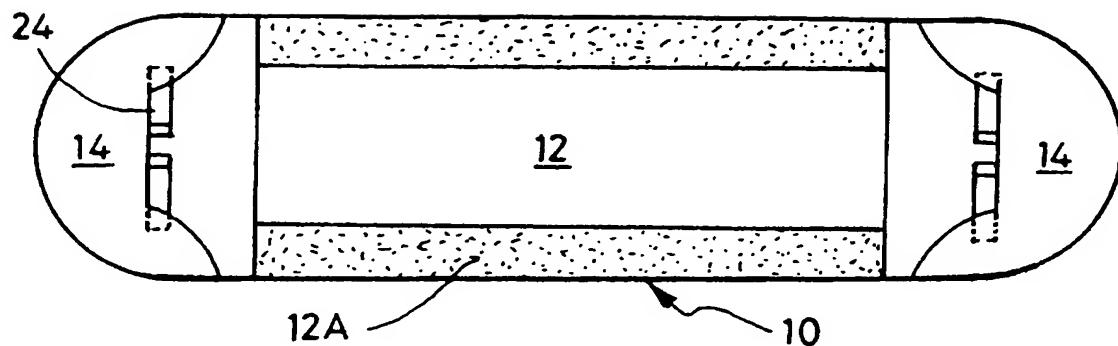


Fig. 4

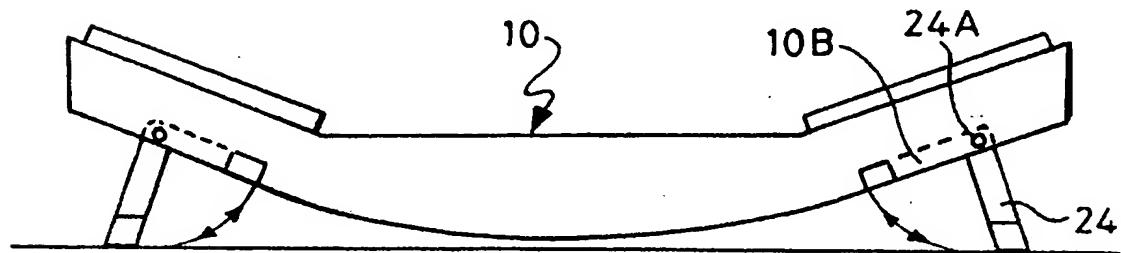


Fig. 5

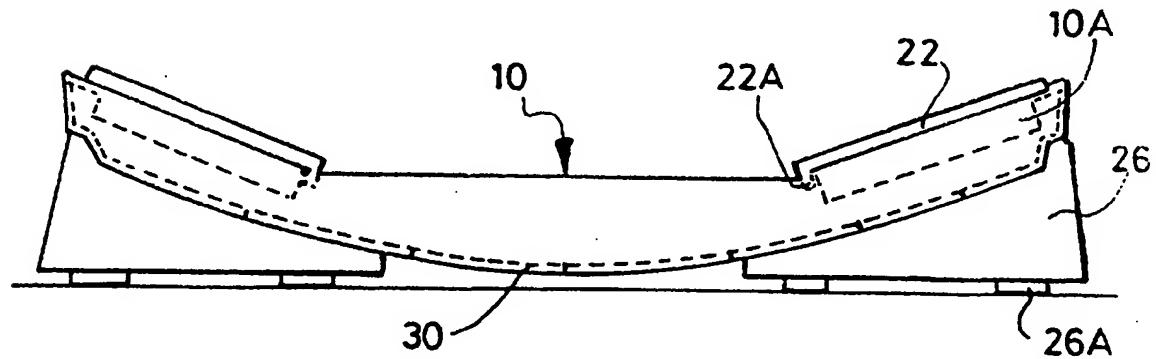
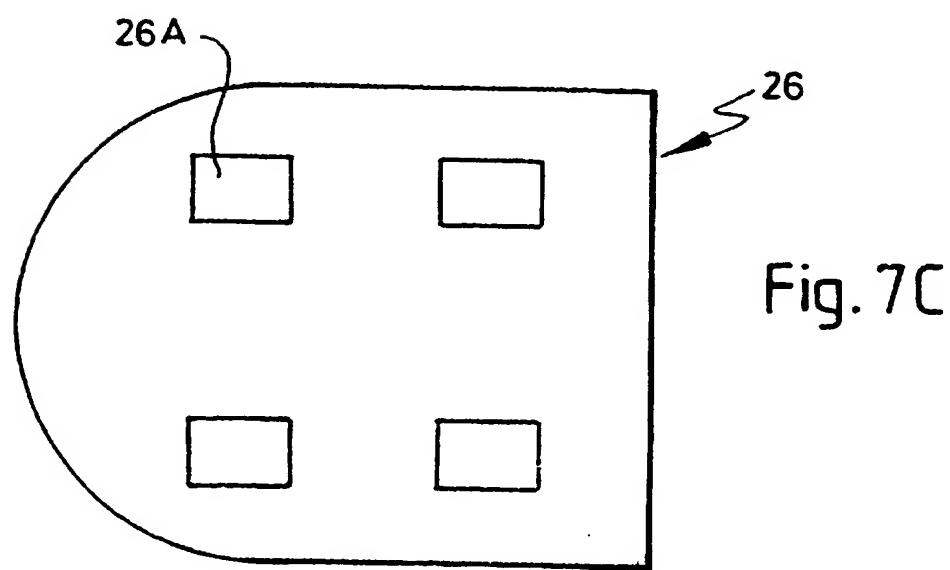
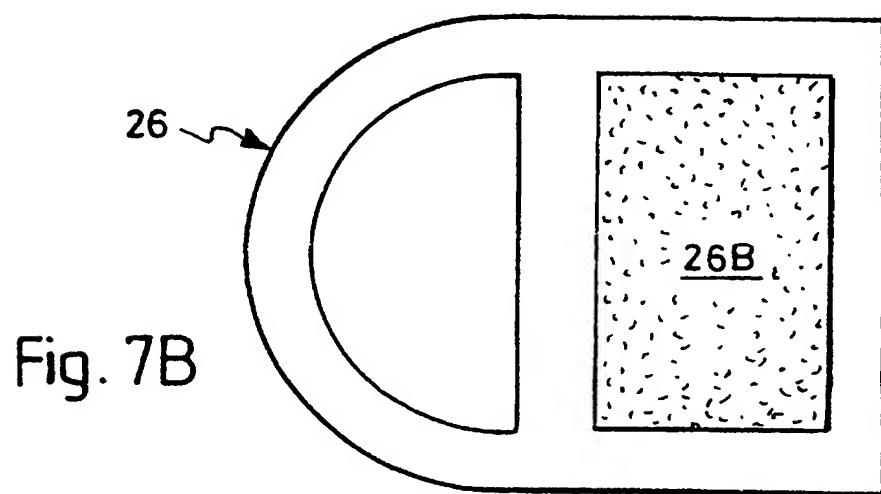
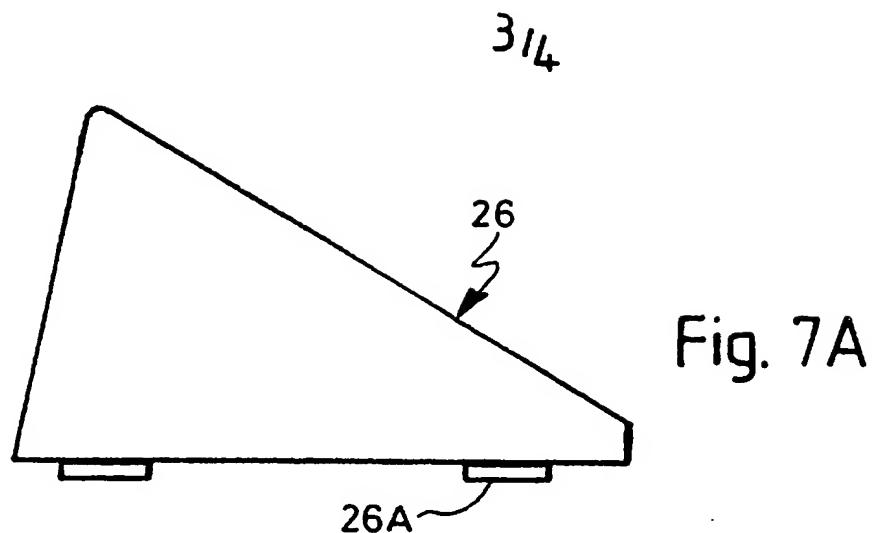


Fig. 6

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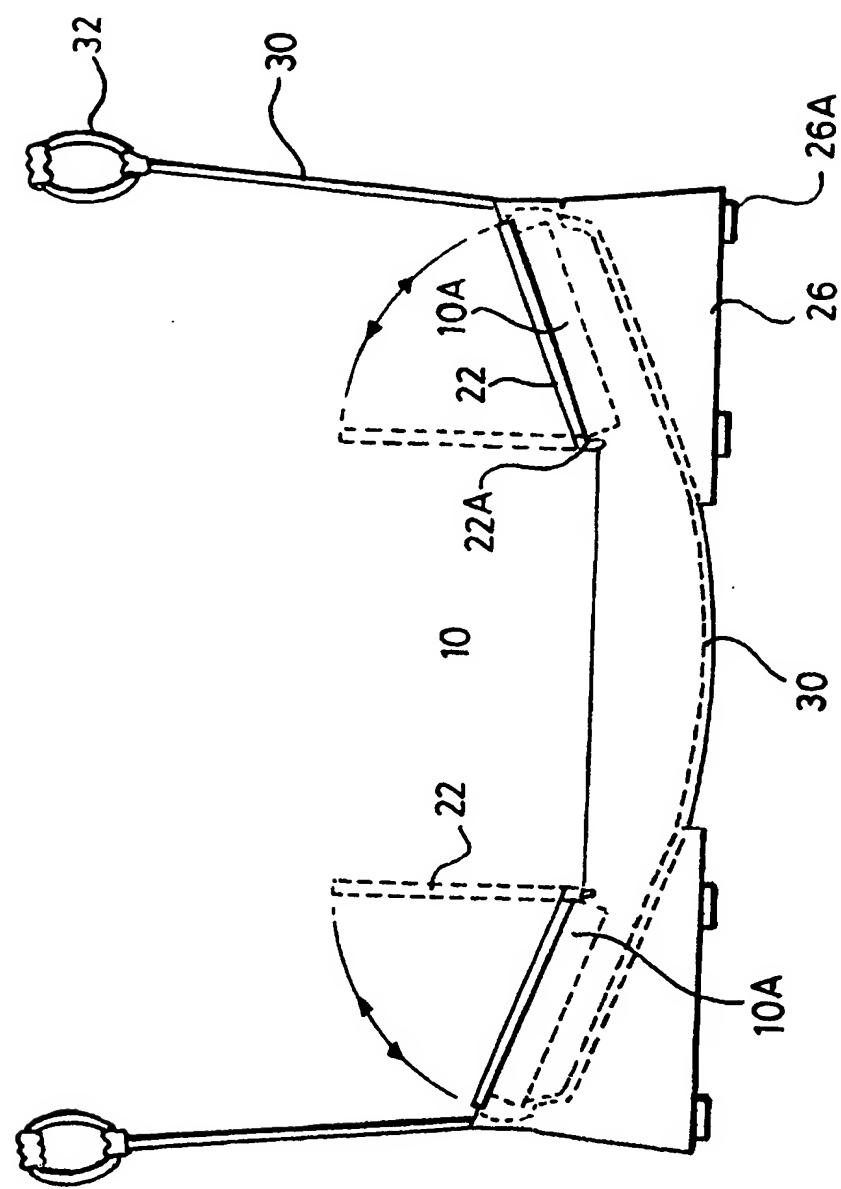


Fig. 8

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# INTERNATIONAL SEARCH REPORT

Int. Application No  
PCT/GB 97/02517

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 A63B23/04

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CH 561 551 A (FISCHBACH ET AL.) 15 May 1975 see column 1, line 1 - column 2, line 13; figures 1,2 ---	1,2,4-6, 18
A	US 3 967 820 A (HARPER) 6 July 1976 see page 2, line 15 - page 3, line 45; figures 1,2 ---	1,3-6, 13-15,18
A	DE 296 03 880 U (ZIEGERT) 25 April 1996 see page 4, line 15 - page 5, line 30; figures 1-4 ---	1,8,9
A	US 2 829 891 A (LUDWIG) 8 April 1958 see column 1, line 56 - column 2, line 37; figures 1-7 -----	1,11,18

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International Application No  
PCT/GB 97/02517

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 2829891 A	08-04-58	NONE	

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